

Date: Wednesday, 9/26/2007 7:56:05 AM  
User: Kim Johnston

Process Sheet

SPLIT

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SADDLE BILLET
Job Number : 34874 -3	
Estimate Number : 10034	
P.O. Number :	Part Number : D6101005
This Issue : 9/26/2007 S.O. No. :	Drawing Number : D6101 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : MACHINED PARTS	Drawing Revision : A
Previous Run : 31388	Material :
Written By :	Due Date : 10/26/2007 Qty: 300 Um: Each
Checked & Approved By : <u>10/07/09 26</u>	
Comment : Est. A. 01.05.04 New Issue EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: 4685

a) Description: Alluminum billet

b) 5.00" x 8.250" x 2.50" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 5.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

C 207109126

300

2.0	D6101005P	7075-T7351 8.25X5.0X2.5
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 300.0000 Each(s)  
7075-T7351 8.25X5.0X2.5

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

PC 8/3/11

100

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6101

C 08/03/18 (100)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: D Date: 08/03/19  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 9/26/2007 7:56:05 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET

Job Number: 34874

Part Number: D6101005

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: MU-01

500 103/18 (100)

6.0

QC21

FINAL INSPECTION/W/O RELEASE



(100)

Comment: FINAL INSPECTION/W/O RELEASE

2008/03/19

Job Completion



2008/3/18 (100)



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

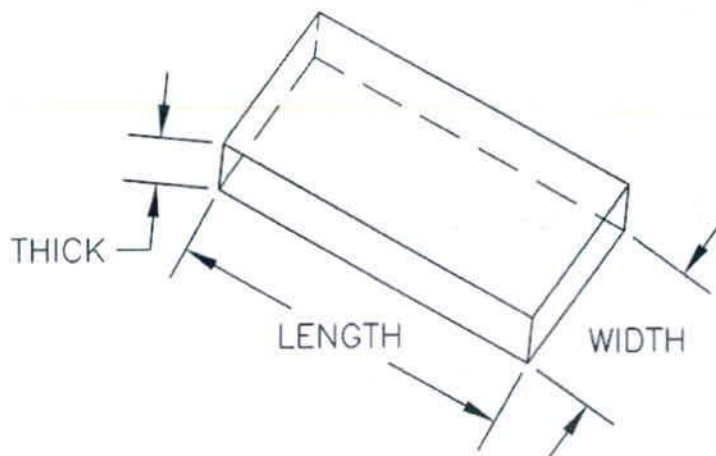
NOTE: Date & initial all entries



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6101	Rev. A SHEET 1 OF 1
DATE 01.03.30		TITLE SADDLE BILLET, 7075	SCALE NTS
A	01.03.30	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
01.04.23



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 34874

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length

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## SHIP TO:

A M CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

## SOLD TO:

AM CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4106118

CUSTOMER PO NUMBER: 01-35054		WORK PACKAGE:	CUSTOMER PART NUMBER: 6879 A97075-60		SHIP RUN/LOAD ID: 101051/6	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1054197	LINE ITEM: 1	SHIP DATE: 23-AUG-2007	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: MILL FINISH PLATE
WEIGHT SHIPPED: 7154 LB	QUANTITY: 4 PCS EST.	B/L NUMBER: 2014128	GAUGE: 2.5000 IN	WIDTH: 48.500 IN	LENGTH: 144.500 IN	

## Certified Specifications

AMS 4078/RevG  
ASTM B 209/Rev06  
BSS 7055/RevA  
DPS 4.713/RevN/AmdAF  
GSS16100/RevG

AMS-QQ-A-250/12  
ASTM B 594/Rev06  
CMMP 025/RevR  
EAC MS1011/RevE  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 006/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

## Test Results

Lot: 409415A7 Cast 993

Drop 15

Ingot 3

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.6 : 71.8 (494 : 495)	60.6 : 60.9 (418 : 420)	11.8 : 11.9

(ASTM E1004)

Conductivity %IACS :	41.4 Min	41.9 Max
(MS/M) :	24.0 Min	24.3 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.19	1.4	0.04	2.5	0.21	5.6	0.02	0.01	0.01	TOT 0.03

CASTLE METALS CORP.  
DATE RCVD 8/28/07  
IAC 6879  
APPROVED BY *[Signature]*





**KAISER  
ALUMINUM**Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586**CERTIFIED TEST REPORT**

Serial Number

4106118

Lot: 409618A6 Cast 993 Drop 05 Ingot 2

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.7 : 70.9 (487 : 489)	59.2 : 59.9 (408 : 413)	11.0 : 11.4

(ASTM E1004)

Conductivity %IACS :	41.6 Min	42.3 Max
(MS/M) :	24.1 Min	24.5 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	
Actual	0.09	0.19	1.4	0.01	2.4	0.20	5.5	0.01	0.01	0.00	TOT	0.02

**ALLOY LIMITS**

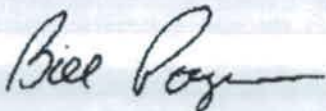
Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

**Aluminum Remainder****TEST NOTES**

Metal represented by this test report was immersion  
ultrasonically tested from one side and meets the Class A  
and Class B requirements of all specifications referenced  
on this test report.

**CERTIFICATION**

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM & CHEMICAL CORPORATION LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**




<b>SHIP TO:</b> A M CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131
<b>SOLD TO:</b> AM CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
 Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
 4103569

<b>CUSTOMER PO NUMBER:</b> 01-84658	<b>WORK PACKAGE:</b>	<b>CUSTOMER PART NUMBER:</b> 6879 A97075-60	<b>SHIP RUN/LOAD ID:</b> 101025/16	<b>GOV'T CONTRACT NUMBER:</b>		
<b>KAISER ORDER NO:</b> 1052032	<b>LINE ITEM:</b> 1	<b>SHIP DATE:</b> 26-JUL-2007	<b>ALLOY:</b> 7075	<b>CLAD:</b> BARE	<b>TEMPER:</b> T7351	<b>PRODUCT DESCRIPTION:</b> MILL FINISH PLATE
<b>WEIGHT SHIPPED:</b> 7126 LB	<b>QUANTITY:</b> 4 PCS EST.	<b>B/L NUMBER:</b> 2013762	<b>GAUGE:</b> 2.5000 IN	<b>WIDTH:</b> 48.500 IN	<b>LENGTH:</b> 144.500 IN	

### Certified Specifications

AMS 4078/RevG  
 ASTM B 209/Rev06  
 BSS 7055/RevA  
 DPS 4.713/RevN/AmdAF  
 GSS16100/RevG

AMS-QQ-A-250/12  
 ASTM B 594/Rev06  
 CMMP 025/RevR  
 EAC MS1011/RevD  
 MMS 159/RevN

AMS-STD-2154  
 BAC 5439/RevH  
 CSTI 006/RevC  
 GAMPS 9101/RevB  
 PS 21211/RevK

Test Code: 4297

### Test Results

Lot: 401533A5 Cast 984

Drop 61

Ingot 2

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.1 : 70.1 (483 : 483)	58.8 : 59.1 (405 : 407)	10.8 : 11.0

(ASTM E1004)

Conductivity %IACS :	41.0 Min	41.1 Max
(MS/M) :	23.8 Min	23.8 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.02	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.04

CASTLE METALS CORP.

DATE RCVD 7/30/07

IAC 6879

APPROVED BY [Signature]





**KAISER  
ALUMINUM**Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number  
4103569

Lot: 405629A7 Cast 984 Drop 87 Ingot 3

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.3 : 70.6 (485 : 487)	59.1 : 59.1 (407 : 407)	10.4 : 10.9

(ASTM E1004)

Conductivity %IACS :	41.6 Min	41.8 Max
(MS/M) :	24.1 Min	24.2 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	
Actual	0.11	0.20	1.5	0.02	2.5	0.19	5.6	0.02	0.01	0.01	TOT	0.03

**ALLOY LIMITS**

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

**Aluminum Remainder****TEST NOTES**

Metal represented by this test report was immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

**CERTIFICATION**

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM & CHEMICAL CORPORATION LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**